State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

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September 6, 2000 DAQE-516-00

LeGrand Bitter, Director
Wasatch Energy System (WES)
650 East Highway 193
Layton, Utah 84041

Dear Mr. Bitter:

Re: Approve Order: Addition of Air Pollution Control Equipment
Davis County, CDS-A, MAINT, NSPS, HAPs, TITLE V MAJOR

The attached document is an Approval Order for the above-referenced project. It includes four appendixes:

Appendix A. R307-150 Series. Inventory,Testing, and Monitoring
Appendix B. R307-107. General requirements: Unavoidable Breakdown
Appendix C. 40 CFR 60, Subpart A -- General Provisions
Appendix D. 40 CFR 60, Subpart BBBB - Federal Register, Monday, August 30, 1999, pages 47234 through 47274

Future correspondence on Approval Order should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Mike Beheshti. He may be reached at (801) 536-4069.

Sincerely,

Richard W. Sprott
Acting Executive Secretary
Utah Air Quality Board

RWS:MMB:aj

cc: Davis County Health Department
Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

APPROVAL ORDER: ADDITION OF AIR POLLUTION CONTROL EQUIPMENT

Prepared By: Mike Beheshti, Engineer
(801) 536-4069

APPROVAL ORDER NUMBER

DAQE-516-00

Date: September 6, 2000

Source Contact

Wasatch Energy System
Nathan Rich, WES
(801) 771-5661, Ext. 13

Richard W. Sprott
Action Executive Secretary
Utah Air Quality Board

Abstract

Wasatch Energy System [WES] owns and operates a municipal waste incinerator in Davis County. It burns municipal waste to its full capacity of 420 tons per day. Since 1996, this operation has been carried out under interim Approval Order DAQE-850-96, which is revised to specify new air pollution control equipment, lower emission levels of air contaminants, and authorize the banking of emission reductions as allowed by law.

All provisions of the proposed federal guidelines for Class B municipal waste incinerators apply to this source. The proposed guidelines are given in 40 CFR 60, Subpart BBBB and delineated in the federal register, Vol. 64, No. 167/Monday, August 30, 1999/Proposed Rules, page 47234 through page 47274 inclusive. A copy of the guidelines is attached to this document as Appendix D.

The new emission-controlling equipment include a gas suspension absorber [GSA, which is at least as efficient as dry sorbent injection (DSI), recommended by the EPA] to reduce the emission of the acid gases, and a carbon injection system to control the emission of dioxin and furan and mercury. These are added to the existing facility, which has had in operation two electrostatic precipitator units to control the emission of particulate matter. The proposed emission controlling equipment is at least equivalent to what the EPA has suggested for sources of this kind, in the proposed 40 CFR, Part 60, Subpart BBBB.

The provisions of this document will become enforceable 25 months from the date of this AO, as provided for in the Stipulation and Consent Order, dated March 27, 2000. During the intervening time, AO DAQE-850-96, shall remain in force.

WES is required to obtain an operating permit. The public reviewed the intent-to-approve document, DAQE-328-00, provided oral comments during a public meeting on June 22, and written comments. All comments were evaluated and those found technically relevant were incorporated in this AO.

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Air Quality Rules (UAQR) and the Utah Air Conservation Act. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

General Conditions:

1. This AO applies to the following company:

Site Office	Corporate Office Location
Davis County Energy Recovery Facility (DCERF) 3404 North 650 East Layton, Utah 84041 (801) 771-5661	Wasatch Energy Systems 650 East Highway 193 Layton, Utah 84041 (801) 771-3032

(801) 771-6438 (801) 771-6438

The equipment listed in this AO shall be operated at the following location:

PLANT LOCATION:

3404 North 650 East
Layton, Davis County, Utah

Universal Transverse Mercator (UTM) Coordinate System:
4551.2 kilometers Northing; 419.8 kilometers Easting; Zone 12

2. Definitions of terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code Rule 307 (UAC R307), and Series 40 of the Code of Federal Regulations (40 CFR). These definitions take precedence, unless specifically defined otherwise herein.

3. Wasatch Energy System [WES] shall install and operate the pollution control equipment GSA/ESP/CI and others at DCERF in accordance with the terms and conditions of this AO, which was written pursuant to Wasatch Energy System's NOI submitted to the Division of Air Quality (DAQ) on March 10, 2000, as supplemented by information submitted to the DAQ on April 24, 2000, April 28, 2000, May 1, 2000, and May 7, 2000.

4. This AO shall become effective October 6, 2002, and at that time, along with its appendices A, B, C, and D, shall replace the AOs dated February 24, 1984, December 18, 1984, November 13, 1986, June 3, 1986, February 26, 1987, October 7, 1988, and September 10, 1996 (DAQE-850-96).

5. The approved installations shall consist of the following equipment or equivalent*:

A. Two Seghers refractory wall furnace municipal waste incinerators, ID # 4-9-84-A and 4-9-84-B.

B. Two Zurn waste heat recovery boilers, ID # 19268 and 19269.

C. Two Gas Suspension Absorber (GSA) systems each consisting of a reactor (7'3" diameter x 43' length), cyclone (11'9" diameter), and feeder box.

D. Two Environmental Elements Electrostatic Precipitators, ID # 420190A and 420190B.

E. One common bulk Powered Activated Carbon (PAC) storage silo (12' diameter) with two delivery and injection systems.

F. One common bulk lime/Trona storage silo (13' diameter) and preparation and feed system.

G. One exhaust stack with two flue liners and two separate atmospheric discharges, one for each municipal waste combustor [MWC].

H. Two 30 million BTU/hr auxiliary fuel start-up burners using #2 oil or natural gas as fuel.

I. One Peerless Pump Company fire pump, ID # 1W315 with a 231 HP caterpillar diesel prime mover.

* Equivalency shall be determined by the Executive Secretary.

6. WES shall be required to comply with this AO commencing October 6, 2002.

Emission Limitations

7. DAQE-850-96 shall continue to govern the operation of the facility until October 6, 2002, at which time this AO shall become effective.

Federal Limitations and Requirements

8. All applicable provisions [see paragraph numbers below] of the proposed 40 CFR 60, Subpart BBBB *in the federal register, Vol. 64, No. 167/Monday, August 30, 1999/Proposed Rules, page 47234 through page 47273 inclusive, are incorporated by reference and* shall apply to the operation of this facility. 40 CFR 60, New Source Performance Standards (NSPS), Subpart A shall also apply. A copy of the latest 40 CFR 60 Subpart and the proposed 40 CFR 60, Subpart BBBB and are attached to this document as Appendix C and D. However, to be in compliance, this facility must operate in accordance with the most current version of 40 CFR 60 applicable to this source.

The following paragraphs of the proposed 40 CFR 60, Subpart BBBB shall apply:

60.1645 through 60.1685
60.1690 through 60.1905
60.1935, 60.1940

9. This AO incorporates by reference the proposed 40 CFR, Part 60, Subpart BBBB in the federal register, Vol. 64, No. 167/Monday, August 30, 1999/Proposed Rules, page 47234 through page 47273 inclusive. Emission limitations and other requirements will be adjusted to be consistent with the final federal rules, if necessary, to include more stringent limitations if the final federal rules are more stringent than the proposed rules with a schedule for compliance with the more stringent federal rules. If no federal rules are issued, this AO will be based on the applicable provisions of the proposed federal requirements for existing small municipal waste combustors, except as modified and as provided for under state and federal law.

10. The combined hours of operation per year for both municipal waste combustors shall not exceed 16, 300 hours per calendar year. Unit hours of operation shall be determined as each hour or part of the hour in which a feed chute door is open and MSW is combusted.

11. The total weight of municipal solid waste incinerated in both units at the facility shall not exceed 140,000 tons per calendar year.

12. Operation of the diesel-powered fire pump shall not exceed 208 hours per calendar year.

13. All applicable records specified in the proposed 40 CFR 60, Subpart BBBB shall be kept for the duration specified. These records shall be made available to the Executive Secretary or Executive Secretary's representative upon request and shall be provided for a period of two years ending with the date of the request. Production and consumption shall be determined by a method approved by the Executive Secretary. The records shall be kept on a daily basis. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log. These records may be automatically generated and maintained electronically using the facility's data historian.

Fuels

14. The sulfur content of any fuel oil or diesel burned shall not exceed 0.5 percent by weight. Sulfur content shall be decided by ASTM Method D-4294-89, or approved equivalent. The sulfur content shall be tested if directed by the Executive Secretary.

15. No fuels other than municipal solid waste, virgin No. 2 fuel oil, or natural gas shall be burned in the municipal waste combustors. No. 2 fuel oil consumption in both fuel oil burners shall not exceed 60,000 gallons on a 12-month rolling total. Municipal solid waste shall be as defined in the proposed 40 CFR 60, Subpart BBBB. Occasional small quantities of substances approved by the Davis County Health Department for destruction at the DCERF, classified documents and similar materials requiring special handling and witnessing of destruction that are delivered directly to the feed hopper after weighing are specifically included within this definition.

16. The facility is prohibited from burning the following classes of material:

    A. Hazardous waste

    B. Radioactive waste

    C. All wastes included in Section 2.2, EPA Guide for infectious waste management [EPA/530-SW-860014, May 1986]

Records & Miscellaneous

17. The owner/operator shall comply with UAC, R307-150 Series, Inventories, Testing and Monitoring. This rule addresses regulated pollutant and hazardous air pollutant emission inventory reporting requirements, and emission statement inventory requirements. The full text of UAC R307-150 Series, Inventories, Testing and Monitoring is included as Appendix A. However, to be in compliance, this facility must operate in accordance with the most current version of the UAC, R307-150 series.

18. The owner/operator shall comply with R307-107, UAC. This rule addresses unavoidable breakdown reporting requirements. The full text of UAC R307-107 General Requirements, Unavoidable Breakdown, is included as Appendix B. However, to be in compliance, this facility must operate in accordance with the most current version of the UAC, R307-107.

19. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded, and the records shall be maintained for a period of two years. Maintenance records shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request.

Any future modifications to the equipment approved by this order must also be approved in accordance with R307-401, UAC.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the DAQ. The Utah Administrative Code R307 rules used by DAQ, the NOI guide, and other air quality documents and forms may also be obtained on the Internet at the following web site: http://www.eq.state.ut.us/eqair/aq_home.htm

Annual emissions for this source (the entire plant) are currently calculated at the following values:

The potential emissions in tons per year from this source areas follows:

TSP 22
PM_{10} 17

$PM_{2.5}$ 13
SO_2 93
NO_x 354.2
HCl 192
CO 74
Mercury 0.051
Lead 1.01
Cadmium 0.063
Dioxin/Furan . . . . . 0.16 lb/yr
VOC 0.4

The annual emission estimations above are for the purpose of determining the applicability of Prevention of Significant Deterioration, Nonattainment area, maintenance area, and Title V source requirements of the UAC R307-415.

In accordance with R307-405-8, WES reserves the right to request banking of appropriate emissions reduction.

Approved By:

Richard W. Sprott, Executive Secretary
Utah Air Quality Board

Appendix A

R307-150 Series. Inventories, Testing and Monitoring.
R307. Environmental Quality, Air Quality.
R307-150. Emission Inventories.
R307-150-1. General Applicability.

(1) The following sources shall submit an emission inventory report:

(a) any Part 70 source;

(b) any source that emits or is allowed under R307 to emit 100 ton per year or more of any regulated air pollutant;

© any source located in Davis, Salt Lake, Utah or Weber County that emits or is allowed under R307 to emit 25 tons per year or more of a combination of PM10, sulfur oxides, or oxides of nitrogen;

(d) any source located in Davis, Salt Lake, Utah or Weber County that emits or is allowed under R307 to emit 10 tons per year or more of volatile organic compounds;

(e) any source that emits or is allowed under R307 to emit 5 tons per year or more of lead;

(f) any source that emits or is allowed under R307 to emit 10 tons or more per year of ammonia;

(g) any source that is allowed under R307 to emit between 90 and 100 tons per year of any regulated air pollutant;

(h) any source that the Executive Secretary requires to submit an inventory for any full or partial year on reasonable notice.

R307-150-2. Definitions.

The following additional definitions apply to R307-150:

"Acute Contaminant" means any non-carcinogenic air contaminant for which a threshold limit value - ceiling (TLV-C) has been adopted by the American Conference of Governmental Industrial Hygienists in its "Threshold Limit Values for Chemical Substances and Physical Agents - Biological Exposure Indices, pages 15 - 40 (1997)."

"Carcinogenic Contaminant" means any air contaminant that is classified as a known human carcinogen (A) or suspected human carcinogen (A) by the American Conference of Governmental Industrial Hygienists in its "Threshold Limit Values for Chemical Substances and Physical Agents - Biological Exposure Indices, pages 15 - 40 (1997)."

"Chronic Contaminant" means any non-carcinogenic air contaminant for which a threshold limit value - time weighted average (TLV-TWA) having no threshold limit value - ceiling (TLV-C) has been adopted by the American Conference of Governmental Industrial Hygienists in its "Threshold Limit Values for Chemical Substances and Physical Agents - Biological Exposure Indices, pages 15 - 40 (1997)."

"Dioxins" and "Furans" mean total tetra- through octachlorinated dibenzo-p-dioxins and dibenzofurans.

R307-150-3. What to Report.

(1) The requirements of R307-150 replace any annual inventory reporting requirements in AOs issued prior to April 1, 1998.

(2) The emission inventory report shall include the information the Board deems necessary to

determine whether the source is in compliance with R307 and federal regulations and standards. The data shall include emissions of ammonia and all regulated air pollutants not exempted in (3) below that are not hazardous air pollutants that are emitted at a source. Data shall include the rate and period of emission, excess or breakdown emissions, startup and shut down emissions, specific installation which is the source of the air pollution, composition of air contaminant, type and efficiency of the air pollution control equipment and other information necessary to quantify operation and emissions, and to evaluate pollution control. The emissions of a pollutant shall be calculated using the source's actual operating hours, production rates, and types of materials processed, stored, or combusted during the inventoried time period.

(3) Regulated air pollutants that are not PM10, sulfur oxides, oxides of nitrogen, carbon monoxide, PM2.5, ozone, volatile organic compounds, dioxins, furans, or hazardous air pollutants are exempt from being reported if they are emitted in an amount less than the smaller of the following:

(a) 500 pounds per year; or

(b) an annual emission level calculated to be the applicable threshold limit value - time weighted average (TLV-TWA) or the threshold limit value - ceiling (TLV-C) multiplied by the appropriate emission threshold factor in cubic meter pounds per milligram year. For an acute contaminant, the factor is 15.81; for a chronic contaminant, the factor is 21.22; for a carcinogenic contaminant, the factor is 7.07.

(4) In addition, any owner or operator of a source that is required by R307-150-1 to submit an inventory shall use appropriate emission factors and estimating techniques to estimate all emissions from each activity not required by R307-401 or R307-415 to be included in a notice of intent or operating permit application. The estimates shall be included in the inventory.

R307-150-4. Timing of Submittal.

(1) A report is required for 1998, 1999, and for every third year after 1999 for any source which actually emits or is allowed under R307 to emit 10 tons or more per year of ammonia.

(2) Report Every Third Year. The owner or operator of each of the following sources is required to submit a report of emissions every third year. The first report shall be due in 2000 for calendar year 1999 for:

(a) any Part 70 source located in Davis, Salt Lake, Utah or Weber Counties;

(b) any Part 70 temporary source;

© any Part 70 source located outside Davis, Salt Lake, Utah or Weber Counties with 25 tons per year or more of combined allowable emissions of PM10, sulfur oxides, oxides of nitrogen, volatile organic compounds or carbon monoxide; or

(d) any stationary source:

(I) located in Davis, Salt Lake, Utah or Weber County that emits or is allowed under R307 to emit a combination of PM10, sulfur oxides, or oxides of nitrogen of 25 tons per year or more;

(ii) located in Davis, Salt Lake, Utah or Weber County that emits or is allowed under R307 to emit 10 tons per year or more of volatile organic compounds;

(iii) located in Davis, Salt Lake, Weber, or Utah County that emits or is allowed under R307 to emit 100 tons per year or more of carbon monoxide;

(iv) that emits 100 tons per year or more of any regulated air pollutant; or

(v) that emits or is allowed to emit 5 tons per year or more of lead;

(e) any source that is allowed under R307 to emit between 90 and 100 tons per year of any

regulated air pollutant.

(3) Report Every Sixth Year. Any Part 70 source not included in R307-150-3(2) shall submit an emissions inventory every sixth year. The inventory for calendar year 1996 suffices as the first inventory.

(4) Additional Reports of Emissions Required Under Specified Circumstances. This subsection is applicable to all sources identified in R307-150-1.

(a) A source that initially achieves compliance at any time with any requirement of an applicable state implementation plan shall submit an inventory for the calendar year in which compliance is achieved.

(b) A source that emits or is allowed under R307 to emit 100 or more tons per year of any regulated air pollutant and whose emissions of any of these pollutants increase or decrease by five percent or more from the most recently submitted inventory shall submit an inventory for the calendar year in which the increase or decrease occurred.

© A source operating temporarily shall submit an inventory for the calendar year in which the source operated.

(d) A source that is not a temporary source, is required to submit an inventory, and ceases operations shall submit a report of emissions for the partial year and a report for the previous calendar year, if not already submitted.

(e) A new or modified source that is not a temporary source, is required to submit an inventory, and receives approval to construct or begins operating shall submit a report for the initial partial year of operation and a report for the subsequent calendar year.

(5) In addition to the required inventories, any source may choose to submit an inventory for any calendar year. The Executive Secretary may require at any time a full or partial year inventory on reasonable notice to affected sources.

(6) Due Date. Emission inventories shall be submitted on or before April 15 of each calendar year following any calendar year in which an inventory is required.

Appendix B.

R307. Environmental Quality, Air Quality.
R307-107. General Requirements: Unavoidable Breakdown.
R307-107-1. Application.

R307-107 applies to all regulated pollutants including those for which there are National Ambient Air Quality Standards. Except as otherwise provided in R307-107, emissions resulting from an unavoidable breakdown will not be deemed a violation of these regulations. If excess emissions are predictable, they must be authorized under the variance procedure in R307-102-4. Breakdowns that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered unavoidable breakdown.

R307-107-2. Reporting.

A breakdown for any period longer than 2 hours must be reported to the Executive Secretary within 3 hours of the beginning of the breakdown if reasonable, but in no case longer than 18 hours after the beginning of the breakdown. During times other than normal office hours, breakdowns for any period longer than 2 hours shall be initially reported to the Environmental Health Emergency Response Coordinator, Telephone (801) 536-4123. Within 7 calendar days of the beginning of any breakdown of longer than 2 hours, a written report shall be submitted to the Executive Secretary which shall include the cause and nature of the event, estimated quantity of pollutant (total and excess), time of emissions and steps taken to control the emissions and to prevent recurrence. The submittal of such information shall be used by the Executive Secretary in determining whether a violation has occurred and/or the need of further enforcement action.

R307-107-3. Penalties.

Failure to comply with the reporting procedures of R307-107-2 will constitute a violation of these regulations.

R307-107-4. Procedures.

The owner or operator of an installation suffering an unavoidable breakdown shall assure that emission limitations and visible emission limitations are exceeded for only as short a period of time as reasonable. The owner or operator shall take all reasonable measures which may include but are not limited to the immediate curtailment of production, operations, or activities at all installations of the source if necessary to limit the total aggregate emissions from the source to no greater than the aggregate allowable emissions averaged over the periods provided in the source's AOs or R307. In the event that production, operations or activities cannot be curtailed so as to so limit the total aggregate emissions without jeopardizing equipment or safety or measures taken would result in even greater excess emissions, the owner or operator of the source shall use the most rapid, reasonable procedure to reduce emissions. The owner or operator of any installation subject to a SIP emission limitation pursuant to these rules shall be deemed to have complied with the provisions of R307-107 if the emission limitation has not been exceeded.